

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

YOU ME Patent & Law Firm

Seolim Bldg., 649-10 Yoksam-dong, Kangnam-Ku Seoul 135-080 Republic of Korea

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 24 SEPTEMBER 2004 (24.09.2004)

Applicant's or agent's file reference  
OPP041256KR

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
**PCT/KR2004/001380**

International filing date (day/month/year)  
**10 JUNE 2004 (10.06.2004)**

Priority date(day/month/year)  
**11 JUNE 2003 (11.06.2003)**

International Patent Classification (IPC) or both national classification and IPC  
**IPC7 C01B 33/12**

Applicant

**Research Institute of Industrial Science & Technology et al**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

JWA, Seung Kwan

Telephone No. 82-42-481-5560



**WRITTEN OPINION OF THE  
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International application No.

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**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	3-9	YES
	Claims	1-2	NO
Inventive step (IS)	Claims	6-9	YES
	Claims	3-5	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims	NONE	NO

**2. Citations and explanations :**

Reference is made to the following document:

D1 : KR 121427 (B1)

1. Claims 1-5 relate to a method of manufacturing a porous silica sphere having a step of heat-treatment by heating silica gel up to a temperature in the range of 1050-1200°C at a certain heating rate for a certain period of time. Claims 6-9 relate to a method of manufacturing a porous silica sphere having the following steps: the first heat-treatment of silica gel at a temperature in the range of 400-900°C and the second heat-treatment at a temperature in the range of 1050-1200°C.
2. D1 discloses a method of manufacturing a silica sphere by heat-treating silica gel up to a temperature of 1100°C at a speed of 2°C/min for one hour, followed by cooling the resultant to an ambient temperature.
3. Comparing claims 1-2 with D1, the subject matter of claims 1-2 is substantially the same as that of D1 in a method of manufacturing a porous silica sphere having a step of heat-treatment by heating silica gel up to a temperature in the range of 1050-1200°C at a heating rate of not faster than 90°C/min for a certain period of time, and the same in the property of a manufactured silica sphere. So the subject matter of claims 1 and 2 does not meet the requirement of Article 33(2) PCT.
4. Comparing claims 3-5 with D1, the subject matter of claims 3-5 is substantially the same as that of D1 in a method of manufacturing a porous silica sphere having a step of heat-treatment by heating silica gel up to a temperature in the range of 1050-1200°C at a certain heating rate for a certain period of time. Though there is a difference in the heating temperature between two inventions, this can be obviously selected by a person skilled in the art without any particular difficulty. Thus the present claims 3-5 do not meet the requirement of Article 33(3) PCT. (Continued on Supplemental Sheet)

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V.

5. Comparing claims 6-9 with D1, claims 6-9 are the same as D1 in a method of manufacturing a porous silica sphere having a step of heat-treatment. However D1 does not disclose a method of manufacturing a porous silica sphere including steps of the first heat-treatment of silica gel at a temperature in the range of 400-900 °C and the second heat-treatment at a temperature in the range of 1050-1200 °C, which cannot be easily derived in an obvious manner by a person skilled in the art from D1.

Accordingly, the present claims 6-9 meet the criteria set out in Article 33(2) and (3) PCT.